



Our Maths Curriculum

Maths is the study of number knowledge and application.

Our maths curriculum is based on the Singapore Maths Model, and is planned on a yearly programme through the use of Maths No Problem in Years 1-6. In the Early Years, White Rose Maths is used to support the emerging knowledge of numbers and patterns. Maths No Problem (MNP) is a scheme of work focusing on the teaching and learning of maths mastery. The Singapore maths model is a highly effective approach to teaching maths based on research and evidence. In its essence, it builds students' mathematical fluency without the need for rote learning, introduces new concepts using Bruner's Concrete Pictorial Abstract (CPA) approach, pupils learn to think mathematically as opposed to reciting formulas they don't understand and teaches mental strategies to solve problems such as drawing a bar model. The MNP Primary Series was assessed by the DfE's expert panel, which judged that it alone met the core criteria for a high-quality textbook to support teaching for mastery.

Key aspects include:

- In Focus Task: presented as a conceptual problem for students to make connections with real life situations.
- Let's Learn: a section of learning where many different strategies for solving the In Focus Task are discussed and explicitly taught by the teacher.
- Guided Practise: an independent series of strategically thought-through questions that subtly vary from the last, developing the learner's knowledge and understanding and allowing them to make connections.

The children work through the syllabus throughout the year, finishing each session with independent practise in their workbook. Maths No Problem begins with number knowledge in the Autumn term: place value and the four operations, moving onto measurement, geometry and more complex mathematical concepts- such as ratio and algebra- in upper KS2 by the Summer.

Deepening of children's understanding is done through teacher planned challenges in the current area of learning. These are there to stretch and cement learning and to test the application of knowledge in different contexts- fluency, procedural knowledge and problem solving.

Same day interventions (master classes) are carried out in maths to ensure that every child is accessing the appropriate age related content and is keeping up with their year group. Those that may have struggled to cement the learning for that day, as identified through the

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teacher's 'live marking' in a lesson, will be supported to ensure they have every opportunity to learn.

Teaching and learning expectations for maths:

- Appropriate mathematical vocabulary will be used in talking and writing
- High level teacher knowledge is evident in explanations and modelling.
- The use of concrete materials, pictorial representations and abstract problems are used.
- Carefully selected, high quality challenges will be used
- Ensure clear same day interventions are taking place for those who need extra support
- Use of the MNP syllabus across Year 1-6 is implemented, supplemented with high level teacher questioning.
- Children are given ample opportunities to work both independently and with support.
- High expectations of behaviour for learning and presentation in books are communicated
- Maths Working Walls are up to date and topical- showing key vocabulary, procedural knowledge and act as a reference point for pupils to refer back to.

Maths in the Early Years Foundation Stage

In the EYFS, maths is covered through the use of White Rose Maths to support the teaching of number and numerical patterns. It uses stories, videos and pictures to support the development of number knowledge, always offering the use of concrete resources to support understanding.

Pictured here is an example of an activity that the children would explore after learning.

[Type here]

Who could be in Mr Gumpy's boat if there are 8 legs altogether.
What if there are 6 legs or 10? Who could be in the boat this time?
I wonder if there could be 9 legs in the boat?



You could draw pictures to help you to work it out.

Children at the expected level of development at the end of the Reception year will:

- Count objects, actions and sounds.
- Subitise.
- Link the number symbol (numeral) with its cardinal number value.
- Count beyond ten.
- Compare numbers.
- Understand the 'one more than/one less than' relationship between consecutive numbers.
- Explore the composition of numbers to 10.
- Automatically recall number bonds for numbers 0–5 and some to 10.
- Select, rotate and manipulate shapes to develop spatial reasoning skills.

[Type here]



- Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can.
- Continue, copy and create repeating patterns.
- Compare length, weight and capacity.

Provision for maths in the EYFS may include learning about numbers- the names of the numerals and how to form them, the ability to recognise 'how many', counting in a sequence and building early understanding of patterns that help children to make mathematical relationships. Development Matters Guidance is also followed, to ensure that the children are receiving the breadth and depth of mathematical understanding that is required. Children are taught through whole class focus activities, small group activities and also as child-led activities through the provision, both indoors and outdoors.